

## CLAIMS

### WHAT IS CLAIMED IS:

1        1.        A process for forming polyolefin drag reducing agents by polymerizing at least one olefin  
2        monomer in the presence of at least one catalyst, wherein the improvement comprises:  
3                isomerizing the at least one olefin monomer prior to polymerizing the at least one olefin  
4        monomer in the presence of at least one catalyst.

1        2.        The process of claim 1, wherein the at least one olefin monomer includes at least one alpha  
2        olefin monomer.

1        3.        The process of claim 2, wherein the at least one alpha olefin monomer comprises  
2        homopolymers, terpolymers or copolymers.

1        4.        The process of claim 2, wherein the at least one alpha olefin monomer comprises co-  
2        polymers of 1-hexene and 1-dodecene alpha olefins or co-polymers of 1-octene and 1-tetradodecene  
3        alpha olefins.

1        5.        A process for forming a drag reducing agent comprising a substantially non-crystalline, ultra-  
2        high molecular weight polyolefin, the process comprising:

3 isomerizing olefin monomers to form isomerized olefin monomers,  
4 wherein the isomerized olefin monomers are substantially free of branched olefin  
5 monomers;  
6 contacting isomerized olefin monomers with a catalyst system in a reactant mixture,  
7 wherein the catalyst system includes at least one catalyst and at least one co-  
8 catalyst; and  
9 polymerizing the isomerized olefin monomers at a temperature at about or less than  
10 25°C, wherein during the polymerization, at least a portion of the isomerized  
11 olefin monomers polymerize in the reactant mixture to provide a substantially  
12 non-crystalline, ultra-high molecular weight polyolefin.

6. The process of claim 5, wherein the olefin monomers are alpha olefin monomers.

1 7. The process of claim 6, wherein the alpha olefin monomers comprise homopolymers,  
2 terpolymers or copolymers.

1 8. The process of claim 6, wherein the alpha olefin monomers comprise co-polymers of 1-  
2 hexene and 1-dodecene alpha olefins or co-polymers of 1-octene and 1-tetradodecene alpha olefins.

1 9. The process of claim 5, wherein the olefin monomers are polymerized by bulk  
2 polymerization.

1 10. The process of claim 5, wherein the polymerization of the olefin monomers continues such  
2 that polyolefin is present in the reactant mixture at a concentration of at least about 4 weight percent  
3 based upon the weight of the reactant mixture, and the polyolefin includes an inherent viscosity of  
4 at least about 10 deciliters per gram.

11. The process of claim 5, wherein the at least one co-catalyst includes an alkylaluminumoxane.

1 12. The process of claim 11, wherein the alkylaluminumoxane is selected from the group consisting  
2 of methylaluminumoxane and isobutylaluminumoxane.

1 13. The process of claim 5, wherein the at least one catalyst includes a the transition metal  
2 catalyst.

1 14. The process of claim 13, wherein the transition metal catalyst is a non-metallocene transition  
2 metal catalyst.

1 15. The process of claim 14, wherein the non-metallocene transition metal catalyst includes  
2 titanium trichloride.

16. The process of claim 5, wherein the at least one co-catalyst includes a halohydrocarbon.

1 17. The process of claim 16, wherein the halohydrocarbon is a chloride containing  
2 halohydrocarbon.

1 18. The drag reducing agent of claim 17, wherein the chloride containing halohydrocarbon is  
2 ethylene dichloride.

1 19. The process of claim 5, wherein the isomerized olefin monomers are polymerized by bulk  
2 polymerization.

1 20. The process of claim 5, wherein the polymerization of the olefin monomers continues such  
2 that polyolefin is present in the reactant mixture at a concentration of at least about 4 weight percent  
3 based upon the weight of the reactant mixture, and the polyolefin includes an inherent viscosity of  
4 at least about 10 deciliters per gram.